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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,569	09/30/2003	William Daniel Bevers	Bevers 4-16-3-6-3/075903-	9976
29391	7590	01/10/2006	EXAMINER KRISHNAMURTHY, RAMESH	
BEUSSE BROWNLEE WOLTER MORA & MAIRE, P. A. 390 NORTH ORANGE AVENUE SUITE 2500 ORLANDO, FL 32801			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,569

Applicant(s)

BEVERS ET AL.

Examiner

Ramesh Krishnamurthy

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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This office action is responsive to communications filed 10/25/05.

Claims 1 – 19 are pending.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 – 6 and 8 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US 6,119,710) in view of Hinkle (US 5,684,245).

Brown discloses (Figs. 2 – 7) a system and method to measure a gas flow rate for a gas provided by a mass flow controller to a process chamber (215) via process line (404), comprising:

- a. said mass flow controller (422-424, 430);
- b. a vent line (such as (302) in Fig. 3) and

i. a bypass loop (Fig. 4) having an inlet junction near the first control valve (417) and a return junction with a second control valve (419) and comprising:

- a. a flow detector (403, 470, 420);
- b. a main vent line shut-off valve (such as (211) in Fig. 2)

whereby said gas flow directed through said bypass loop provides a measurement of said mass flow controller's gas flow rate which provides information for quantiation or for calibration of said mass flow controller.

The patent to Brown discloses the claimed invention with the exception of explicitly disclosing the bypass loop to be connected to either the process line or the vent line between the mass flow controller and the process chamber. Brown discloses the bypass loop to be located upstream of the mass flow controller (422-424, 430).

Hinkle discloses a flow arrangement for calibrating a mass flow controller wherein the bypass loop (see Fig. 4C) is disposed downstream of the mass flow controller (24) for the purpose of calibrating the mass flow coming out of the mass flow controller.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Brown the bypass loop downstream of the mass flow controller for the purpose of calibrating the mass flow coming out of the mass flow controller, as evident in Hinkle.

It is noted that the provision of a digital mass flow controller for a flow detector in the bypass loop is a design expedient over those features disclosed in the combination

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of Brown and Hinkle in that a digital mass flow controller is a known flow meter that is an art recognized equivalent to other accurate flow detectors.

It is noted that the combination of Brown and Hinkle disclosed above necessarily performs the method recited in claims 18 and 19.

4. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown and Hinkle as applied to claims 1 – 6, 8 – 19 above, and further in view of Nishikawa et al. (US 6,273,954).

The combination of Brown and Hinkle as set forth above discloses the claimed invention with the exception of explicitly disclosing a backpressure or back vacuum compensation to the flow detector.

Nishikawa et al. discloses that is known in the art to provide a backpressure or back vacuum compensation to the flow detector for the purpose of obtaining accurate flow rate measurement.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in the combination of Brown and Hinkle a back pressure or back vacuum compensation to the flow detector for the purpose of obtaining accurate flow rate measurement, as recognized by Nishikawa et al..

Response to Arguments

5. Applicant's arguments filed 10/25/05 have been fully considered but they are not persuasive. Applicant is arguing that Brown requires a discontinuous flow through the bypass line where as the present invention does not. However the claims do not recite that flow through the bypass loop is continuous, rendering the argument moot. As for

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the argument concerning the lack of a specificity in combining Brown '710 and Hinkle '245 references, it is noted that the office action clearly states the reasoning in that while in Brown, the calibration volume is located upstream of the mass flow controller, in Hinkle it is disposed downstream thereof. The arrangement of Hinkle provides calibration of flow rate coming out of the mass flow controller where as in Brown the flow rate going into the mass flow controller is calibrated/verified. The Hinkle approach is more useful since it is the mass flow rate coming out of the mass flow controller that is delivered to the processing chamber. As for the stated equivalency of the "mass flow detector" (in the combination of Brown and Hinkle) to a mass flow controller, it is noted applicants admit to the flow metering property of a mass flow controller in the specification, for example, at lines 3 – 4 of paragraph [005].

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

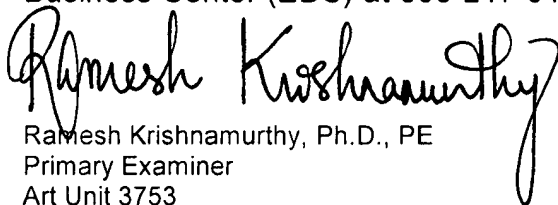
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached on (571) 272 – 4929. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
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